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*Publication date:*  
2018

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*  
Georgiadis, S., & Pires, S. M. (2018). *Estimating the burden of disease of congenital toxoplasmosis in Denmark*. Poster session presented at 2018 Society for Risk Analysis (SRA) Annual Meeting, New Orleans, Louisiana, United States.

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# Estimating the burden of disease of congenital toxoplasmosis in Denmark

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## Congenital Toxoplasmosis

Congenital toxoplasmosis (CT) is a parasitic disease caused by infection with *Toxoplasma gondii*, which is transmitted from mother to fetus.

CT can cause severe fetal and neonatal health problems or even child's death.

The most significant symptoms of CT are included in this study:

- fetal loss;
- chorioretinitis;
- intracranial calcifications;
- hydrocephalus;
- abnormalities of the central nervous system;
- neonatal death.

## Burden of Disease

**Morbidity** - Years Lived with Disability (YLDs):

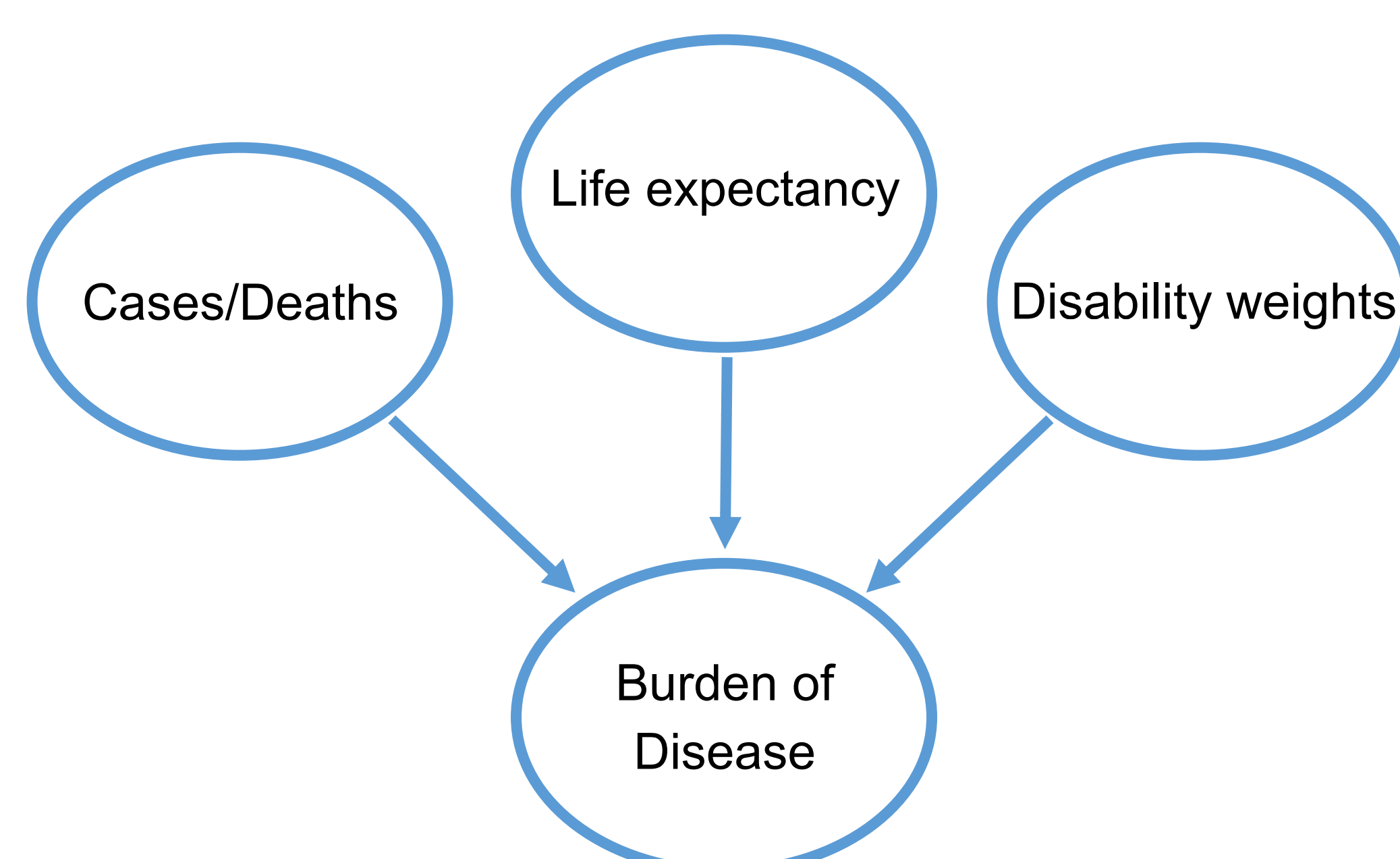
YLD = Number of cases \* duration till remission or death \* disability weight

**Mortality** - Years of Life Lost (YLLs) due to premature mortality:

YLL = Number of deaths \* life expectancy at the age of death

**Burden of Disease** - Disability-Adjusted Life Years (DALYs) are used as a public health measure:

DALYs = YLDs + YLLs



## Morbidity & Mortality

Data from comprehensive public health surveillance and official statistics were used to estimate cases and deaths in Denmark in 2017.

**Morbidity** – chorioretinitis, intracranial calcifications, hydrocephalus, CNS abnormalities

**Mortality** – fetal loss, neonatal death

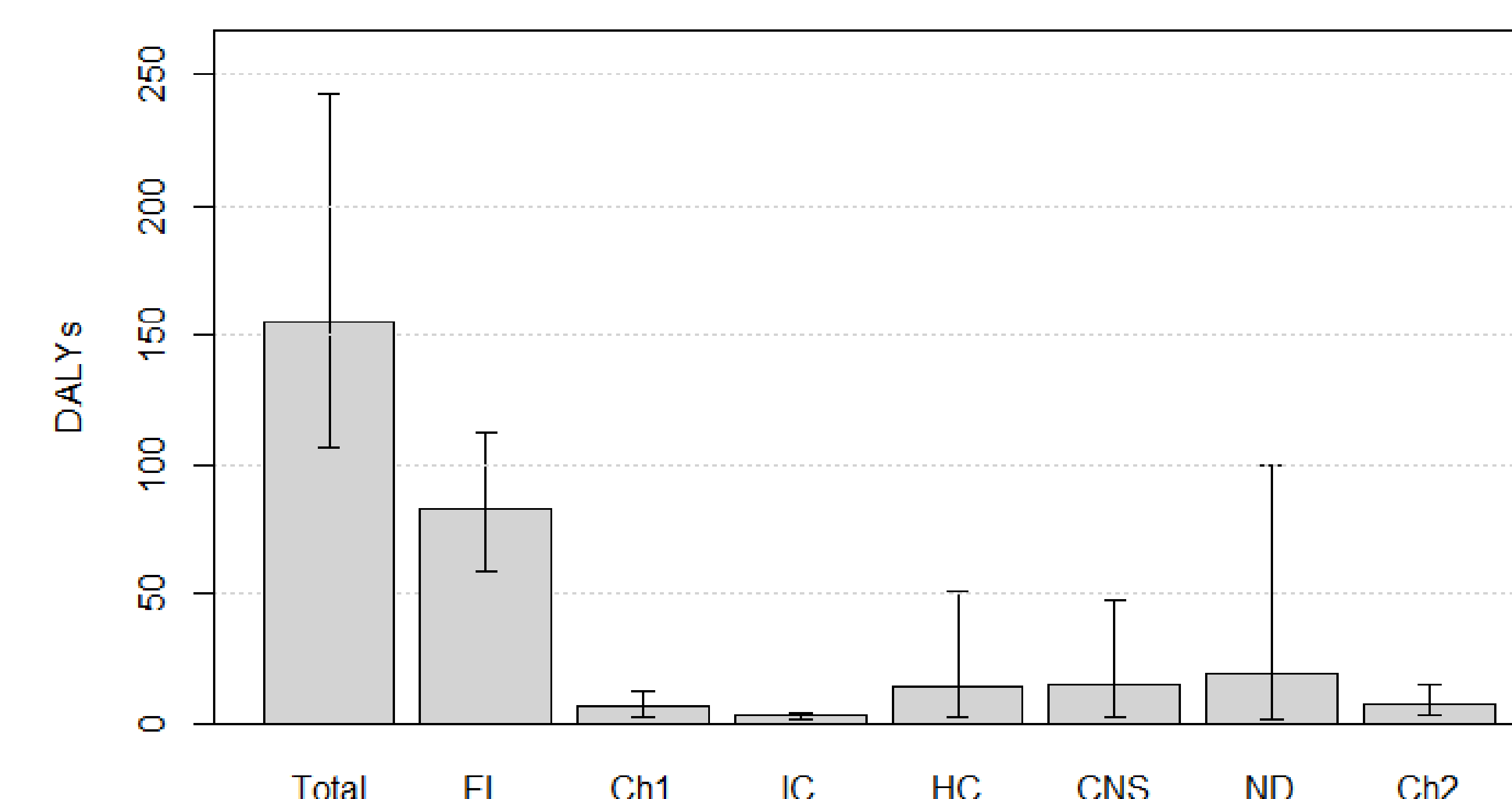
	Estimated cases	
	Cases per 1000 live births in 2017	Total cases in 2017
Fetal loss	-	0.89 (0.64-1.22)
Chorioretinitis	0.037 (0.017-0.067)	2.29 (1.05-4.09)
Intracranial calcifications	0.052 (0.028-0.084)	3.18 (1.69-5.19)
Hydrocephalus	0.008 (0.001-0.026)	0.50 (0.07-1.62)
CNS abnormalities	0.008 (0.001-0.026)	0.50 (0.07-1.62)
Neonatal death	0.003 (0.0001-0.018)	0.21 (0.008-1.08)
Chorioretinitis later in life	0.051 (0.023-0.089)	3.10 (1.39-5.49)

## Burden of Disease per Symptom

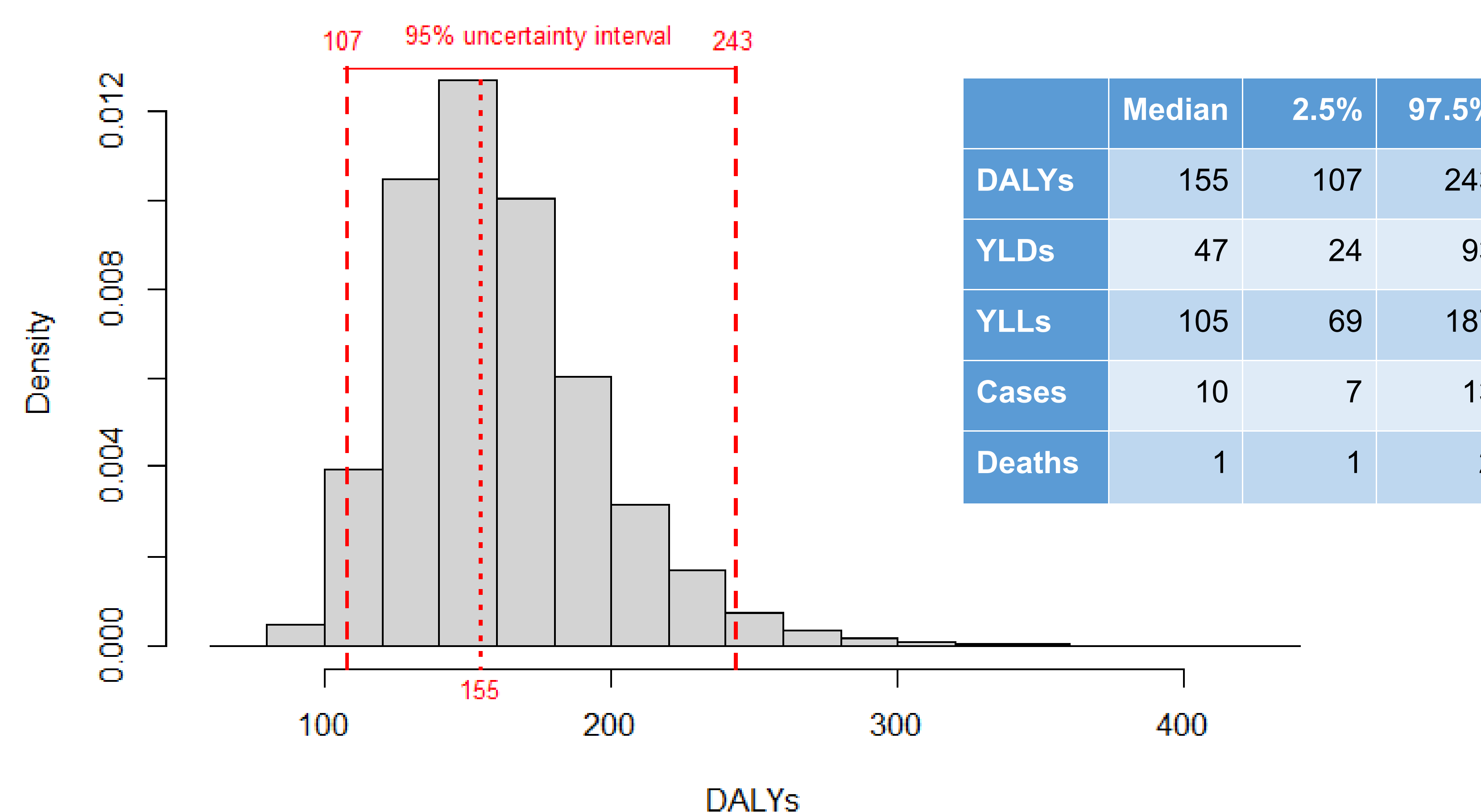
Life expectancy in Denmark:

- duration till remission or death = 81 years;
- life expectancy at the age of death = 92 years.

Disability weights were obtained from Global Burden of Disease study and other reports.



## Total Burden of Disease of Congenital Toxoplasmosis



## Foodborne Disease Ranking

Ranking of DALY estimates in Denmark in 2017:

- 1.campylobacteriosis;
- 2.norovirus infection;
- 3.salmonellosis;
- 4.listeriosis;
- 5.congenital toxoplasmosis;
- 6.Shiga-toxin producing *E. coli* (STEC) infection;
- 7.yersiniosis.

## References

Nissen *et al.* (2017). The disease burden of congenital toxoplasmosis in Denmark, 2014. *PLoS ONE*, 12(5), e0178282.

Pires *et al.* (2018). Burden of disease of seven foodborne pathogens in Denmark, 2017. (in preparation)